



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,459	11/28/2003	Jong Seok Kim	0465-1098P	8280
2292	7590	09/27/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			RIGGLEMAN, JASON PAUL	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			1746	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,459

Applicant(s)

KIM ET AL.

Examiner

Jason P. Riggelman

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to label Figs. 1-2 as prior art as described in the specification. The following figures had part number labels not described in the specification: Fig. 1 -- "40", Fig 3. -- "97", and Fig. 5 - - "125". Figs. 1-2 are missing part number "6a" described in paragraph [0006] of the specification. The part number labels "143", "148", and "75" as described in paragraphs [0093], [0067], and [0099], respectively, of the specification are not shown in any of the drawings. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

Art Unit: 1746

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. The abstract of the disclosure is objected to because the length exceeds the 150-word maximum. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 7-12, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Conrath (US Patent No. 3227835).

6. Conrath teaches a switch assembly (similar to the vibration sensing assembly claimed by applicant), designed for use in a horizontal-axes or vertical-axes washing machine, which senses the gyrational (vibrational) movements of an out-of-balance condition (Column 2, Lines 18-23).

7. The switch assembly, the frame of which is mounted to the interior wall of the washing machine cabinet, contains an actuator (first rotational part) which pivots about a pivot-type joint (first and second rotational connecting portions), formed by a hole and an upsetting pin, in a pre-determined amount determined by the slot length (first stopper) and point of contact with the switch, and is fixed to a member 56 (fixing body) which is connected to the switch assembly frame. A switch (sensor) is provided to the actuator allowing the motor to be shut-off in the event of an excessive gyration (vibration) or out-of-balance condition (Column 4, Lines 52-75).

8. The member 56 (fixing body), further comprises a spring 59 which connects to the switch actuator (first rotational body) and returns the switch actuator (first rotational body) to the original position once engaged (Column 4, Lines 55-60).

9. The second rotational part of the switch assembly (vibration sensing assembly) Conrath teaches is the bell-crank shaped trip lever (second rotational body) which is pivotally (rotatably) carried on a depending leg, integral to the side wall, and comprises

Art Unit: 1746

a depending finger and an integral extending leg. This trip lever rotates when an excessive gyration or out-of-balance load condition is present, engaging the depending finger which then rotates the trip lever about the pivot (third and fourth rotational connecting portions) (Column 4, Lines 27-37).

10. The trip lever leg is provided with a catch, in the presence of a notch, for engaging the actuator lip. A second spring is connected to the leg and the switch actuator to form a biasing mechanism. The actuator lower portion edge is engageable with a notch to permit quick disengagement of the actuator and catch after the first trip lever has been pivoted through a predetermined angle (Column 4, Lines 10-25).

11. The trip lever leg and switch actuator, both of which are rotational bodies, are rotatably connected at the catch 44. The switch actuator has a portion receiving the plunger 32 which is on an upper surface of the rotational body of the switch actuator (Column 5, Lines 0-14).

12. The tub top rim 19, which consists of a protruding portion of the tub, contacts the depending finger of the trip lever leg and pivots the latter in a clockwise direction (Column 4, Lines 10-17).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1746

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conrath (US Patent No. 3227835) as applied to claims 1-5, 7-12, and 18-19 above, and further in view of Smith et al. (US Patent No. 5685038).

15. Conrath uses bolts, Fig. 2, to mount the switch assembly frame to the cabinet and does not teach the use of at least one hook for attaching the fixing body to the inner wall of the cabinet; however, Smith et al. teaches an acceleration sensitive switch for detecting an out-of-balance condition in a washing machine, in which the rotating member 46 is attached to the frame using a hook 67 (Column 4, Lines 42-50). It would be obvious to one of ordinary skill in the art to modify Conrath, as described in claims 1-5, 7-12, and 18-19 rejections, with the hook of Smith et al. to permit simple installation or removal of the assembly from a cabinet surface.

16. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conrath as applied to claims 1-5, 7-12, and 18-19 above, and further in view of (*In re Gazda* 104 USPQ 400).

17. Conrath does not teach a second rotational body comprising a sensor receiving portion, receiving the sensor therein, nor a sensor receiving portion provided to the upper surface of the second rotational body. It has been held that reversal of parts would have been obvious (*In re Gazda* 104 USPQ 400). It would have been obvious to one of ordinary skill in the art to modify Conrath by providing the sensor to the second rotational body instead of the first rotational body to create a vibration sensing assembly which effectively transfers the vibration signal from the tub to the sensor.

Art Unit: 1746

18. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conrath (US Patent No. 3227835) as applied to claims 1-5, 7-12, and 18-19 above, and further in view of Dalen et al. (US Patent No. 5183056).

19. Conrath does not teach a sensor using a ball-type rolling body; however, Dalen et al. teaches (Columns 1-2, Lines 62-68, 0-16) a motion sensor which contains a spherical magnetic ball inside a spherical case. A movement sensing unit which detects movement of the ball by means of a coil (signal receiving part) surrounding the casing and a moving ball (signal transmitting part). It would be obvious to one of ordinary skill in the art to modify Conrath, as described in claims 1-5, 7-12, and 18-19 rejections, with the Dalen et al. ball-type sensor to make an attitudinally independent, efficient, sensor which detects transient vibrations in a washing machine.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are Kahale et al. (US Patent No. 3720936) and Altnau (US Patent No. 4098098). Kahale et al. teaches a kickout switch for a clothes washer which detects an unbalanced tub which contacts the rotating armature of the switch assembly, depressing a plunger, and terminating the power to the motor. Altnau teaches an out-of-balance and safety switch which has a lever arm, biased by a spring, which is depressing by the vibration of the tub causing a termination of power to the motor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason P. Riggleman whose telephone number is 571-272-5935. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason P Riggleman
Examiner
Art Unit 1746

A handwritten signature in black ink, appearing to read 'Michael Barr', with a stylized flourish at the end.

MICHAEL BARR
SUPERVISORY PATENT EXAMINER